

What is claimed is:

1. A sputtering target consisting essentially of Si, wherein a ratio ($I_{(111)}/I_{(220)}$) of peak intensity ($I_{(111)}$) of (111) face to peak intensity ($I_{(220)}$) of (220) face of Si is 5 in a range of 1.8 ± 0.3 when a sputtering surface of the target is measured for crystal face orientation by X-ray diffractometry.

2. The sputtering target according to claim 1, 10 comprising an Si sintered material having a relative density in a range of 70 % or more and 95 % or less.

3. The sputtering target according to claim 1, having hardness in a range of Hv 300 or more and Hv 800 or less in terms of Vickers hardness.

15 4. A sputtering target consisting essentially of Si, wherein the target comprises an Si sintered material having a relative density in a range of 70 % or more and 95 % or less.

5. A sputtering target consisting essentially of Si, wherein the target has hardness in a range of Hv 300 or more 20 and Hv 800 or less in terms of Vickers hardness.

6. The sputtering target according to claim 5, wherein the target as a whole has dispersion of the Vickers hardness within 30 %.

7. The sputtering target according to claim 5, 25 comprising an Si sintered material having a relative density in a range of 70 % or more and 95 % or less.

8. A sputtering target consisting essentially of Si, wherein an oxygen content of the target is in a range of 0.01

mass% or more and 1 mass% or less.

9. The sputtering target according to claim 8,
comprising an Si sintered material having a relative density
in a range of 70 % or more and 95 % or less.

5 10. The sputtering target according to any one of
claims 1 through 9, which is a target for forming an oxide
film.

10 11. The sputtering target according to any one of
claims 1 through 10, which is used as a target for forming an
optical thin film.

12. A process for producing an Si oxide film,
comprising forming an Si oxide film by sputtering the
sputtering target according to any one of claims 1 through 9
in an oxygen-containing atmosphere.

15 13. The process for producing an Si oxide film
according to claim 12, wherein the Si oxide film is an
optical thin film.